

REMARKS

In the Office Action dated June 6, 2006, claims 23, 27-31, 34, 37 and 40- 51 were presented for examination. Claims 41 and 49-51 were objected to under 37 CFR §1.75(c) as being of improper form for failing to further limit the subject matter of a previous claim. Claims 23, 27, 37 and 43-51 were rejected under 35 U.S.C. §103 (a) as being unpatentable over *Smith* in view of *Jenkins*, *Lotz et al.* in view of *Jenkins*, *Babcock* in view of *Jenkins*, and *Smith* or *Lotz et al.* in view of *Jenkins* as applied to claim 23 and further in view of *Oxygen Cutting Operations*, respectively.

The following remarks are provided in support of the pending claims and responsive to the Office Action of June 6, 2006 for the pending application.

I. General Remarks

All of the claims have been presented in a clean form in order that they may be easily reviewed. The claims as now presented are numbered Claims 52 through 79. Each of the apparatus claims have been amended such that they are now in conformance with MPEP §2114 and MPEP §2115. The process limitations have been deleted and the claims amended such that additional characteristics and structural limitations are now present in the apparatus claims. Additional claims directed to a Markush of gases and a diminished Markush of gases have been added to both the method and apparatus claims.

II. Rejection of the Claims under 35 U.S.C. §103(a)

Each of the rejections presented in the outstanding Office Action apply the same secondary reference, *Jenkins*. The key assumption is that the secondary reference, *i.e. Jenkins*, teaches that a two part tip, could be substituted for the one part tip taught and disclosed by each of the primary references. With respect to each rejection, the stated motivation for combining the

references is that “because improved cutting properties would also be desired by” each of the primary references to *Smith*, *Lotz et al.* or *Babcock* “which allows for the use of any desired type of cutting tip, motivation to employ the improved tip taught by *Jenkins*, as the cutting tip required by (*Smith*, *Lotz et al.* or *Babcock*), would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.” See the Office Action, page 3 with respect to the rejection of *Smith* in view of *Jenkins*, page 4 with respect to the rejection of *Lotz et al.* in view of *Jenkins*, page 5 with respect to the rejection of *Babcock* in view of *Jenkins*, and the rejection on page 6 which incorporates the previous rejections in part. Accordingly, each of the rejections by the Examiner in the Office action is based upon the selfsame assumption.

The Examiner however, has provided no findings of fact in support of his position that any cutting tip provided by *Jenkins* would have been desired by any of the primary references, or would in fact have provided improved cutting properties. Nor has the Examiner presented any findings that the secondary reference to *Jenkins* state that the two part cutting tip taught therein could be used in place of a one part cutting tip. Thus, the rejections as stated in the record fails to supply the requisite motivation to combine the references as required under 35 USC §103(a). The last rejection which introduces a tertiary reference to “Oxygen Cutting Operation,” must likewise fail because the primary references to *Smith* or *Lotz et al.* cannot be combined with *Jenkins* and these rejections form the basis of the outstanding rejection of record.

Furthermore, the modification of substituting a two part tip for a one part tip as suggested by the Examiner finds no support in any of the references of record. A careful review of *Jenkins* indicates that *Jenkins* fails to state, teach or even suggest that the “torch tip” prepared by him is better than the one part torch tip of the prior art primary references to *Smith*, *Lotz et al.* or *Babcock*. Nor does *Jenkins* state, teach or suggest that improved cutting properties are obtained from the utilization of his torch tip. The only place that the *Jenkins* reference includes remarks remotely similar to those made by the Examiner in the Office Action are found in Column 12, line 5 of *Jenkins* wherein he describes his invention as, “a novel and improved torch tip.” The only other pertinent portion of the *Jenkins* reference, in this regard is found in column 1, lines 45

through 48 wherein it is stated that, "it has been found that better results are attained if the attenuated rear or inlet portion of the mixed gas passageways are formed of separate fine tubular inserts." Contrary to the Examiner's position, *Jenkins* fails to state, teach or suggest that "improved cutting properties" are obtained by the use of his two part torch tip. Nor does *Jenkins* teach that his torch tip is intrinsically better or even an improvement over a one part blowpipe. The motivation for combining the references of record as stated on the record exists only in the Examiner's imagination and is not factually supported on the record before us or by any of the findings by the Examiner of record.

It is well settled that the mere identification in the prior art of each element is insufficient to defeat the patentability of the combined subject matter as a whole. The Examiner is required to explain the basis on which he concludes that it would have been obvious to make the claimed invention. This requires that the Examiner "explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."¹ Furthermore, the Examiner is not allowed to use Applicant's claimed invention as a template for piecing together the omitted elements without a suggestion for such a combination. "Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight."² Accordingly, Applicant respectfully contends that the teachings of the combined references of record do not meet the standard set by the CAFC's interpretation of 35 U.S.C. §103(a), and respectfully requests that the Examiner remove the rejection against each of the claims as now amended.

¹*In re Roufett*, 149 F.3d 1350, 1357-1359, 47 USPQ 2d 1453 (Fed. Cir. 1998).

²*In re Dembiczak*, 175 F.3d 994, 50 USPQ 2d 1614 (Fed. Cir. 1999).

III. The individual rejections; *Smith* in view of *Jenkins*

A. U.S. Patent No. 2,205,499 to *Smith*

Smith '499 is directed to a method of cutting metals. The method utilizes a blowpipe B supplied for preheating purposes with gaseous oxygen and a fuel gas such as acetylene from high pressure tanks. See page 2, column 2, lines 70-74. Blowpipe B is a one part tip. Indeed, the Examiner admits that a "two part tip cutting torch" is not taught by *Smith*. See the Office action, page 3, lines 9-10. There is no structural description of the blowpipe. The essence of the invention to *Smith* is directed to controlling the entry of oxygen gas, into the cutting system. A considerable portion of the reference is directed to the type of nozzle required for the entry of oxygen gas. See page 1, column 1, line 42 through page 2, line 67. A lengthy list of principles and limitations needed to meet the nozzle for the inlet of oxygen is set forth. For the Examiner to merely state that a two part nozzle may be utilized in place of a one part nozzle must necessarily be in error in view of the great specificity described in the *Smith* reference.

Furthermore, there is no mention in *Smith* of a two part nozzle, only a very careful explanation of the specific requirements needed for the one part nozzle taught by *Smith*. Accordingly, any nozzle substituted for *Smith*'s would have to meet each of the physical requirements of the *Smith* disclosure. There appears to be nothing in the findings of the Examiner to indicate that the nozzle disclosed by the secondary reference *Jenkins* meets the requirements of the *Smith* reference.

Furthermore, there is no teaching in *Smith* of delivering combustible gas to the cutting torch at a pressure between about 15 and 80 PSI as required by claims 52- 58, and 69-79. There is no teaching of the specific combustible gases of claims 53-54, 59-60, 64, 70, 73, 74, and 77-78. There is no teaching of the cutting rates required by the method of claims 57, 63, 66, 72, and 76. As to the apparatus claims, there is no teaching of an apparatus containing the requisite combustible gases. There is no teaching of an apparatus that has the requisite physical

characteristics of supporting the gas at a pressure between about 35 and 80 psi. See claims 59-63, and 68. Each of these deficiencies of *Smith* is in addition to the basic failing of the rejections of record in combining the teachings of the primary and secondary references.

B. U.S. Patent No. 2,363,250 to *Jenkins*

Jenkins '250 discloses a torch tip having very specific requirements for its physical structure. See the drawing as described in page 1, right hand column, line 33 through page 2 left hand column line 63. It is entirely evident that the torch tip designed by *Jenkins* is very specific in its structure and physical characteristics. While the tip disclosed by *Jenkins* is designed for acetylene or hydrogen, there is nothing to indicate that the torch tip designed by *Jenkins* would meet the specific requirements of the *Smith* patent. Nor is there any suggestion that it could be used for any of the specific gases required by the claimed subject matter. Therefore, merely to state that the torch tip of *Jenkins* could be interchanged with the blowpipe disclosed by *Smith* is entirely lacking in the requisite motivation to establish a *prima facie* case of obviousness. Stated otherwise, the motivation to utilize the torch tip of *Jenkins* in place of the one part blowpipe of *Smith* exists only in the Examiner's mind.

IV. *Lotz et al.* in view of *Jenkins*

Applicant hereby incorporates the comments to *Jenkins* '250 provided in response to the prior Office Actions and above.

U.S. Patent No. 5,902,544 to *Lotz et al.* (hereinafter "*Lotz*") is directed to a high pressure oxygen torch system containing a high pressure nozzle. See Abstract. *Lotz* requires essential measurements of the "nozzle geometry." See column 3, lines 42-50. The separation nozzle (6) must be "precisely calculated." See column 4, lines 32-34. Thus, simply substituting another nozzle, such as that taught by *Jenkins* for that disclosed in *Lotz* as suggested by the Examiner is wholly unacceptable and lacking in requisite motivation as required by the Statute, 35 U.S.C.

§103(a). Furthermore, for the reasons discussed above and incorporated herein this combination of references fails to meet the requirements of the Statute, 35 U.S.C. §103(a).

In addition, it should be mentioned that there is no mention in *Lotz* of other combustible gases, although admittedly a combustible gas must be present for the invention to operate properly. Furthermore, there is no teaching of the specific pressure for any combustible gas let alone the naming of any combustible gas enumerated in the claimed subject matter.

V. *Babcock in view of Jenkins*

Applicant hereby incorporates the comments to *Jenkins* '250 provided in response to the prior Office Actions and above.

U.S. Patent No. 2,521,199 to *Babcock* is directed to a method and apparatus for cutting of metal. The reference contains a lengthy discussion of the factors and requirements necessary for the manufacture of a nozzle. See the discussion beginning at column 1, line 21 through column 3, line 30. Note in particular column 3, lines 22-30 that, "[A]ttempts to design expanding or divergent nozzles for any particular head pressure and flow rate by purely theoretical calculations proved unsatisfactory due to variables such as the heat transfer from nozzle to gas, frictional drag, vena contracta effect etc. which are involved in the flow of oxygen through the cutting nozzle. Therefore the successful series of cutting nozzles are designed empirically." Completely contrary to the Examiner's position, the express teachings of *Babcock* reflect on each of the rejections in that none of the references including the one to *Babcock* can be readily combined with the nozzle torch disclosed by *Jenkins*. Accordingly, for the reasons discussed above and incorporated herein this combination of references must fail to meet the requirements of the Statute, 35 U.S.C. §103(a).

In addition, the only teaching in *Babcock* for a combustible gas is "acetylene or other fuel gas". See col. 6, lines 49-50. No other gas is disclosed and no pressures are disclosed as

required by many of the claims in the claimed subject matter.

VI. *Smith or Lotz et al. in view of Jenkins and further in view of Oxygen Cutting Operations*

The Examiner relies upon *Oxygen Cutting Operations* to a very limited extent. Without entering into the merits of this tertiary reference, suffice it to say that the rejection is not sustainable because the rejections of the primary references in view of the secondary reference are not sustainable.

Applicant hereby incorporates the comments to primary references of *Smith* and *Lotz et al.* and the second reference to *Jenkins* '250 provided in response to the prior Office Actions and above.

As explained in detail stated above, the combinations of either *Smith* or *Lotz et al.* with *Jenkins* are not combinable under the principles of 35 U.S.C. §103. Therefore, the reference to *Oxygen Cutting Operations* utilized as a tertiary reference cannot cure the deficiencies of combining the primary and secondary references.

VII. Conclusion

Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. Accordingly, Applicant requests that the Examiner indicate allowability of claims 52-79, and that the application pass to issue. If the Examiner believes, for any reason, that personal communication will expedite prosecution of the application, the Examiner is hereby invited to telephone the undersigned at the number provided.

For the reasons outlined above, withdrawal of the rejection of record and an allowance of

this application are respectfully requested.

Respectfully submitted,

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